

**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application and for indicating that the drawings filed on April 14, 2004 are accepted.

**Information Disclosure Statement**

Applicants respectfully request the Examiner acknowledge and consider the reference cited in the IDS filed herewith.

**Disposition of Claims**

Claims 1-13 were pending in the present patent application. Claims 5, 6, and 12 have been canceled by way of this reply without prejudice or disclaimer. Accordingly, claims 1-4, 7-11, and 13 are now pending. Claims 1 and 8 are independent. The remaining claims depend, either directly or indirectly, from claims 1 and 8.

**Claim Amendments**

Independent claim 1 is hereby amended to include limitations of canceled claims 5 and 6. Independent claim 8 is hereby amended to include the limitations of canceled claim 12. Further, claims 2-3 are hereby amended to address antecedent basis issues. No new matter is added by way of these amendments, and no new search should be required, as the amendments are merely a formality to incorporate previously examined limitations into independent claims 1 and 8.

**Double Patenting Rejection**

Claims 1-13 are provisionally rejected on the ground of nonstatutory obviousness type double patenting as being unpatentable over claims 1-8, 11-17, and 19-20 of co-pending U.S. Patent Application No. 10/713,411 and over claims 1-16 of co-pending U.S. Patent Application No. 10/713,409. Terminal disclaimers in compliance with 37 CFR § 1.321(c) are filed with this response based on common ownership of the co-pending applications and the instant application. Accordingly, withdrawal of this rejection is respectfully requested.

**Rejections under 35 U.S.C. § 102**

Claims 1-4 and 6-7 stand rejected under 35 U.S.C. § 102 as being anticipated by Tamches, "Fine-Grained Dynamic Instrumentation of Commodity Operating System Kernels", University of Wisconsin, 2001 ("Tamches"). Claim 6 has been canceled by this reply. Accordingly, this rejection is now moot with respect to canceled claim 6. To the extent that this rejection may still apply to the remaining claims, the rejection is respectfully traversed.

"A claim is anticipated only if *each and every element* as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987) (emphasis added). Further, "[t]he identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The Applicants respectfully assert that Tamches does not expressly or inherently describe each and every element of amended independent claim 1.

Amended independent claim 1 is directed to a method for tracing an instrumented program. More specifically, amended independent claim 1 requires, in part, obtaining an original instruction associated with the probe using a *look-up table* comprising information

related to the *original instruction*. However, the Examiner admits that Tamches fails to specifically disclose searching a look-up table using a program counter value. *See* Office Action dated November 15, 2007, at page 6. In view of this, Tamches fails to disclose all the limitations of amended independent claim 1.

Moreover, claim 1 requires, in part, loading the original instruction into a scratch space, which is allocated on a *per-thread* basis. In contrast, Tamches only discloses that a single code patch and a single springboard, if necessary, are allocated when splicing an instruction. *See* Tamches, pages 55 and 61 (describing the dangerous race condition created). In other words, all threads branched by the instruction will be directed to the same code patch (or to the same springboard). Further, Tamches discloses a “safer approach” where a counter reflects the *number* of threads currently in the same code patch. *See* Tamches, page 61. Thus, Tamches discloses that multiple threads may exist in the same code patch simultaneously. However, there is no disclosure of a scratch space allocated on a *per-thread* basis. In view of this, it is clear that splicing allocating a single code patch of Tamches is not equivalent to the scratch space allocated on a per-thread basis as recited in amended independent claim 1.

In view of the above, Tamches fails to disclose all the limitations of independent claim 1. Dependent claims 2-4 and 7 depend, directly or indirectly, from claim 1 and are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

### **Rejections under 35 U.S.C. § 103**

Claims 5 and 8-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Tamches in view of U.S. Patent No. 6,327,704 (“Mattson”). Claims 5 and 12 have been canceled by this reply. Accordingly, this rejection is now moot with respect to the canceled

claims. To the extent that this rejection may still apply to the remaining claims, the rejection is respectfully traversed.

MPEP § 2143 states that “[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit.” Further, when combining prior art elements, the Examiner “must articulate the following: (1) a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference; ...” MPEP § 2143(A).

Amended independent claim 8 is directed to a method for tracing an instrumented program. More specifically, amended independent claim 8 requires, in part, obtaining an original instruction associated with the probe using a look-up table “arranged to store an address and a corresponding *original instruction*”. The Examiner admits that Tamches fails to specifically disclose searching a look-up table using a program counter value, and instead, the Examiner relies on Mattson to teach searching a look-up table comprising information related to the original instruction. *See* Office Action dated November 15, 2007, at page 6.

Mattson teaches the use of a multi-branch-jump table to find the addresses of *target instructions*. *See* Mattson, column 2 at lines 39-44. In other words, the multi-branch-jump table of Mattson is only used to perform jumps to multiple target instructions. *See* Mattson, column 2 at lines 31-38. Mattson also teaches the use of a look-up table to find *translated instructions*. *See* Mattson, column 11 at lines 19-23. However, Mattson is completely silent with respect to a look-up table comprising information related to the *original instruction*. In view of this, Mattson does not teach or suggest a look-up table comprising an original instruction associated

with a probe and an address associated with the original instruction as explicitly recited in amended independent claim 8.

Moreover, amended independent claim 8 requires, in part, loading the original instruction into a scratch space, which is allocated on a *per-thread* basis. As discussed above, Tamches does not disclose allocating a scratch space on a per-thread basis. Further, Mattson fails to supply that which Tamches lacks, as evidenced by the fact that the Examiner has relied on Mattson solely to teach limitations directed to using a dynamic backpatching determination through look-up table in dynamic instrumentation. *See* Office Action dated November 15, 2007, at pages 7-8.

In view of the above, Tamches and Mattson, whether considered separately or in combination, do not teach or suggest all the limitations of amended independent claim 8. Thus, amended independent claim 8 is patentable over Tamches and Mattson. Dependent claims 9-11 and 13 depend, directly or indirectly, from claim 8 and are patentable for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

**Conclusion**

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 03226/417001; SUN040872).

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Attachments (Terminal Disclaimer for Application No. 10/713,411)  
(Terminal Disclaimer for Application No. 10/713,409)